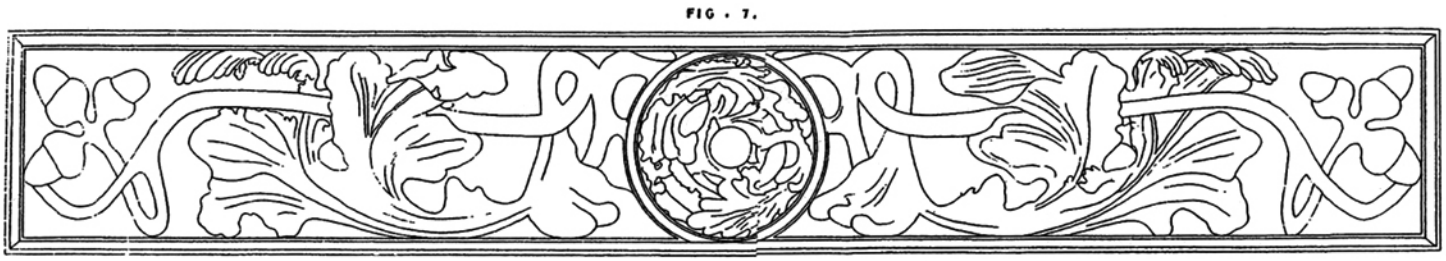
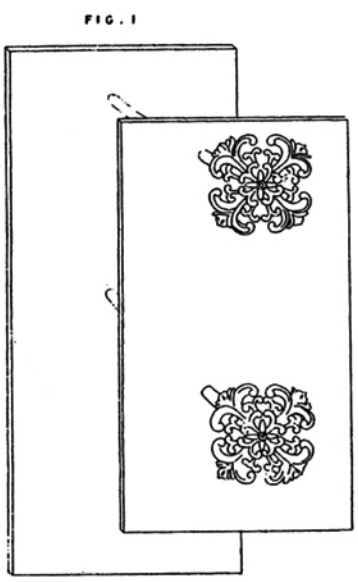
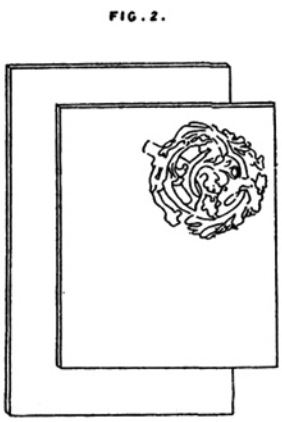
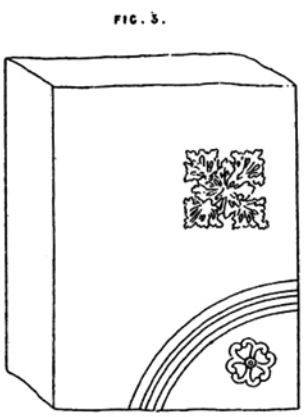
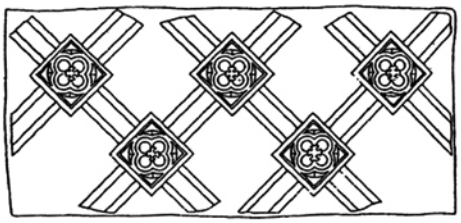
William Vose Pickett's celebration of an imagined architecture - The failure of Invention without representation

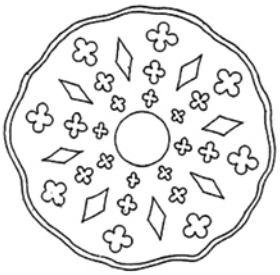


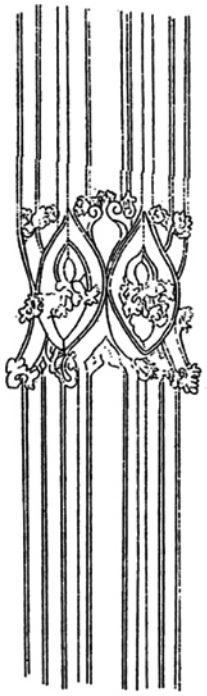


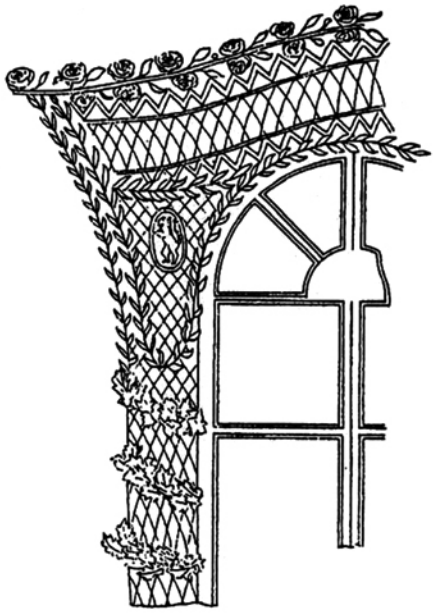


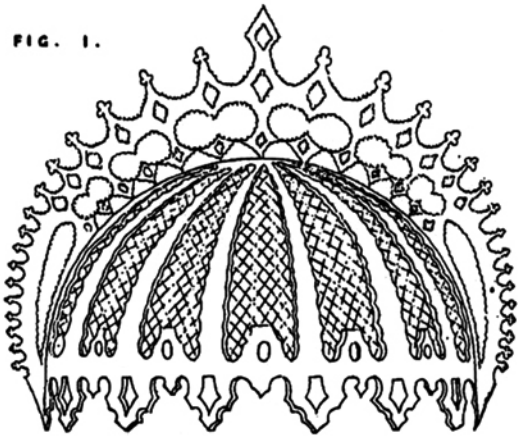












NOTE : This paper is included in my thesis as APPENDIX – E.

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CONTENTS:

ABSTRACT:

William Vose Pickett dreamt of an entirely fresh architecture based on the use of metals. Over 20 years, starting in the 1840s, he disseminated his ideas, enthusing about an architecture based on industrial production with the whole globe as its potential market. It was to be an architecture based on curved lines, skeleton construction, suspension systems for support. It would exploit the aesthetic possibilities of perforated and woven materials casting ever-changing shadows on layers of shimmering, reflective surfaces.

Pickett was confident of the aesthetic power of a set of basic principles guiding his unique ideas. His detailed vision anticipated many of the preoccupations of designers more than a century later. Despite clarity of insight and a clear intellectual understanding of a promising Metallurgic Architecture appropriate for the industrial age, Pickett was unable to fix his designs with seductive images. He could not make persuasive drawings of what he so clearly saw and was able to describe in words. He could not extract the forms clearly held in his literary imagination.

This paper explores invention and design, proposing that they may be distinct ways of thinking, one reflective, the other active and specific. Pickett imagined and wrote Architecture. Using a musical analogy – no one rose to the occasion to play it in detail, to perform it in drawing or indeed in matter. His Architecture was never built.

NOTE : This paper is included in my thesis as APPENDIX – E.

William Vose Pickett's Written Architecture

Celebrating invention without convincing delineation

Pedro Guedes
The University of Queensland

William Vose Pickett dreamt of an entirely fresh architecture based on the use of metals. Over 20 years, starting in the 1840s, he disseminated his ideas, enthusing about an architecture based on industrial production with the whole globe as its potential market. It was to be an architecture based on curved lines, skeleton construction, suspension systems for support and the aesthetic possibilities of perforated and woven materials casting ever-changing shadows on layers of shimmering, reflective surfaces. He was confident of the aesthetic power of a set of basic principles guiding his unique ideas. His detailed vision anticipated many of the preoccupations of designers more than a century later. Despite clarity of insight and understanding of a promising Metallurgic Architecture appropriate for the industrial age, Pickett was unable to fix his designs with seductive images. He could not make persuasive drawings of what he so clearly saw and was able to describe in words. This paper will explore invention and design, proposing that they may be distinct ways of thinking, one reflective, the other active and specific. Pickett imagined and wrote Architecture. Using a musical analogy; no one rose to the occasion to play it in detail, to perform it in drawing or indeed in matter. His Architecture was never built.

William Vose Pickett has been largely forgotten as an Architectural innovator.[1] His great failing was that as far as we know, he never built anything and there is little trace of his ideas in graphic form. He did however make up for these deficiencies by describing his visions in writing over a period of twenty years starting in 1843.[2]

Pickett's work addressed two major unresolved, mid-nineteenth century architectural agendas:
Firstly, the creation of a new style of architecture in tune with the nineteenth century and
secondly, inventing architectural forms appropriate to iron and other new materials. The first concern was expressed early in the century, by Thomas Hope in his pre-1831 *Historical Essay on Architecture*:[3]

> *No one seems yet to have conceived ... of composing an architecture which, born in our country, grown on our soil, and in harmony with our climate, institutions, and habits, at once elegant, appropriate, and original, should truly deserve the appellation of "Our Own."*[4]

This sense of inadequacy was to grow into a major source of anxiety in 19th century architecture.
The second issue, of developing architectural vocabularies for the use of iron in architecture, challenged expectations of appropriate proportions and formal expression. Unlike masonry, iron was a material that did not lend itself to generous forms that could be revealed sculpturally in light and shade. Used in accordance with its properties, iron produced mean and attenuated elements of insubstantial appearance. Antagonistic thoughts about iron's hopeless prospects in architecture are thoroughly explored in A W Pugin's 1841 *True Principles* where he reserved his strongest criticism for the facility with which iron undermined established values of worth, displaying: "... Cheap deceptions of magnificence (which would) encourage persons to assume a semblance of decoration far beyond either their means or their station."[5]

Iron seemed nevertheless to offer a material that would help bring about an architecture unique to the age. The Institute of British Architects awarded a medal to Ambrose Poynter in 1842 for an essay on iron in architecture.[6] Poynter argued that given a material such as iron, inventive ancient and gothic architects would have responded by deriving appropriate and beautiful forms, unencumbered by preconceptions of what constituted correct proportions in other materials. Intellectual appreciation of these issues did not mean that these unfamiliar forms could be accepted. Architects were too attached to subtleties of form and proportion that had been codified into masonry-based vocabularies in Classical and Gothic styles. Perhaps C R Cockrell expressed this disquiet best when he wrote: "... all Modern Architecture has sprung from Ancient Art... Cast-Iron would lend itself useful to a columnar system, but for Design we must still go to the Ancients."[7]

Pickett's campaign

Pickett's earliest known publication is a letter addressed to the President and members of the Royal Academy, explaining the opportunities offered by his new Metallurgic Architecture. Pickett was by no means modest:

> *... I have discovered and invented "a new and independent species of Architecture", possessing to a greater extent the character of a "Fine Art" than that of any style of architecture hitherto practiced...*[8]

At the same time, he tried to interest the Royal Commission of Fine Arts, the Royal Society, the Society of Arts and the Board of Trade, but they too did not respond favourably.[9] Prince Albert was dismissive:

> *From the investigation which His Royal Highness has made on the subject of your invention, he regrets to say that he does not consider it of any value and importance, and will therefore not trouble you to send any models for inspection.*[10]

Simultaneously, Pickett decided to patent some of his original ideas.[11] The 'inventions' were Pickett's lively and unique system of ornamentation. Metallurgic Architecture would rely for its aesthetic effects on detached and perforated elements that would cast ever-changing shadows on the building surfaces. Fixings such as rivets and bolts would have extended shafts terminating in openwork heads. Metallic gauzes, meshes, latticework and perforated surfaces, sometimes enriched with faceted glass would enliven the New Architecture, which would be further enhanced by the application of brilliant metallic colours. Richness and variety would result from the ever-changing three-dimensional properties of parallax and moving shadows, which Pickett later called *Protean Effects*.

Meanwhile, early in 1844, an anonymous article 'Vulcanian Architecture' appeared in *The Athenaeum*. The piece, commenting on a recently restored spire on St Stephen's Cathedral in Vienna in which iron had been freely used, derided the idea of iron architecture.[12]

Under the pseudonym Lucius, Pickett replied in his characteristic tortuous prose, claiming deep historical precedent for "glorious productions of Metallic Art" including the "inspired architect" Hiram's "cast pillars of brass" in the Temple of Solomon. For him the idea of combining iron and the new materials with existing architecture was hopeless: The new style could not "be accomplished, without new principles of design and construction." With these:

> *... the energies of genius might be awakened; and England, with her natural advantages, her scientific attainments, and in the vastness and extent of her mechanical and commercial resources, is the country above all others, in which the operations of such "an art" might be most successfully conducted.*[13]

Manifesto

Pickett published his longest and most impressive manifesto in 1845.[14] It is a rambling text of over 140 pages. On close reading, this tract contains many insightful suggestions for Metallurgic Architecture but the ideas are hard to pin down as few are developed amid numerous digressions and inconclusive repetitions. In the introduction he laments that he had failed to ignite interest among the "several leading institutions" in London. A reply from H M's Government typified this indifference: "... it was not their duty or custom to encourage inventors."[15]

His stated ambition was to avoid the "work of *imitating* and *copying* the work of nations long extinct..."[16] He enthused about combining Beauty, Utility and Variety with Originality in ways... "integrally dissimilar from, and if possible of a higher order, than those exhibited in the pre-existing architectures..." and promised to embody these in a "*new order of forms...*"[17] enabling the New Architecture "... to maintain, to a far greater extent than any pre-existent Architecture, the character of an art of *invention* rather than imitation."[18] Among the utilitarian ambitions of this new architecture were:

> *... comfortable modifications of temperature, dryness, durability, cleanliness, the absence of unhealthful and disagreeable odours; free admission of light, and general convenience and economy of space; security against fire, etc.; facilities in erection; and, if possible, for removal of structures without injury or destruction of their respective parts.*[19]

Metallurgic Architecture would survive earthquakes and withstand the destructive effects of electrical storms.[20]

The New Architecture was to follow nature by being based on curved forms of superior beauty to the straight lines common in masonry construction.[21] This would also promote hygiene with the avoidance of dust-gathering right angles.[22] Unlike Classical Architecture, vertical supports would not be strictly divided into the distinct parts or members, governed by canons and proportional systems. Their lines would flow into one another and their shapes would be suggested by the tasks they were to perform, guided by science and artistic intuition.[23] Walls would be hollow and light and provide plenty of space for chimneys flues, other services and closets for storage. Solid masses would give way to distributed supports. Foundations would be lighter and dry and roof structures less demanding of space.[24] A special and unique feature of the style would be the ability to create porticos without columns by embracing the principles of suspension, unique to this new Metallic Art.[25] Transparent canopies and semi copulas would:

> ... *check the power of the sun's rays in their entrance into the interior of an edifice... without having the unpleasant and inconvenient effect of excluding the natural light , at seasons when the largest amount can be admitted...*[26]

"Varieties of *resplendency in effec*" could be secured by the various methods of working and finishing metal and colour through paint or vitrified glazes could bring brightness and freshness to smoggy environments.[27] This New Architecture would be in tune with the commercial and manufacturing prowess of the age, lending itself particularly for export to distant markets, where:

> ... *we may successfully implant our own peculiar arts among them, and unite with the peculiar utility attendant upon such constructions, the additional gift of a beauty, which shall satisfy the minds, and tend to the general improvement, of their inhabitants.*[28]

Mass-production or repetition would add to economy and be "calculated to exercise the most salutary influence over its practices, by restraining within due limits the caprices of uncultivated taste or mere fancy."[29]

More campaigning

Pickett's manifesto appears to have had little immediate impact. There is no direct mention in any of the contemporary architectural journals. This, however, did not discourage him from further agitating. He spoke at the 'evening meetings' of the Society of Arts and at other "lectures delivered in the Metropolis and elsewhere."[30] He also published a series of twelve articles in *The Fine Arts Journal* in 1847 that "fully set forth... the theory and artistic details of the system."[31] By this stage, he had organised his ideas into a series of four *Primary Principles* that characterised the New Metallurgic Architecture.[32]

At the Colosseum, Regent's Park, he exhibited models, some of them full size mock-ups, illustrating the unique *Protean Effects* possible with his invention.[33] For the proprietors, he designed:

> ... *a portable and fireproof Colosseum, on a scale similar to that in Regent's Park, London,... for the purposes of exhibiting panoramas of London in the cities of Europe and America. The main supports and girders of the framing being, under peculiar artistic treatment, prominently developed in aid of external effect.*[34]

Pickett's entry for the Army and Navy Club competition in 1847 drew nothing but scorn from the *The Builder*, whose editor remarked that he had:

> ... *excited much laughter at his mode of illustrating his ideas... The ordinary system in architecture has this advantage of Mr Pickett's,*

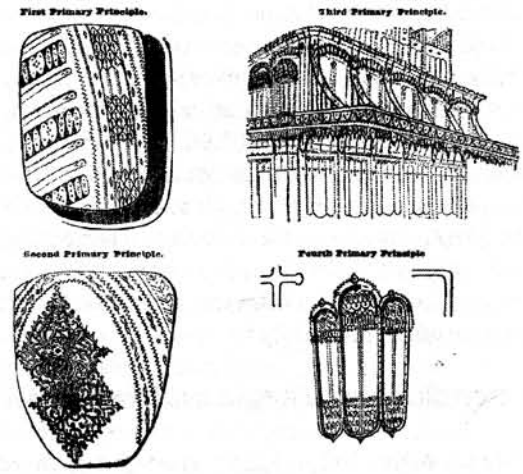

FIG. 1: THE FOUR PRIMARY PRINCIPLES

> *that the principle of support is natural, whereas that of suspension always requires an explanation to do away with the first thought of insecurity.*[35]

About the same time, Pickett wrote to the Prime Minister, listing the grave losses to be suffered from neglecting his ideas, warning:

> ... *that our railway and shipping interests are deprived of a large income in freightage. That our Colonies, and other foreign relations, are thereby shut out from the advantage of highly useful and beautiful buildings... That the commercial and manufacturing interests are deprived of a large amount of employment.*[36]

In June1848, Pickett submitted a design and estimate to the Commissioners of Woods and Works for a suspension portico to replace Nash's cast-iron colonnade at the Quadrant, Regent Street. This scheme drew rare praise:

> ... *it provided a light, elegant, and well ventilated roof composed of a series of domical iron frameworks filled with thick semi-opaque and partially figured and tinted glass—the whole presenting an enriched, but chaste and elegant effect, entirely relieved of every obstruction...*[37]

A reputable iron-founder had estimated the cost at less than half of what was subsequently spent replacing Nash's 145 columns.[38] This design, along with others was "approved for exhibition by the Council of the Royal Academy, but later returned to the artist, under plea of want of space to do justice to his talents."[39]

In 1849, his 1845 Manifesto received the belated and favourable attention of *The Westminster Review*. The review of Pickett's work was typically thorough, insightful and unusually long even by the quarterly's standards.[40] The writer worked hard with the text to discover and organize the ideas it contained, clarifying them and strengthening the arguments for Metallurgic

Architecture. Pickett must have been enormously flattered by this boost to his project. He immediately published another lengthy tract—largely a reprint of the review article, fully acknowledged, with a very short and somewhat superfluous introduction and conclusion.[41] He added an appendix: *AN ADDRESS TO CAPITALISTS* in which he called upon this constituency to recognize the value of mass production. He explained the idea by suggesting parallels to the publishing of fine engravings where the cost of plates is spread over a large run of prints, simultaneously multiplying access to art to the enrichment the community.[42]

Extending metallurgic architecture

In 1852, William Bridges Adams, invented a system of 'Tension Chain-Net Floors and Roofs for spans of 500 feet.' Published with a drawing in *The Builder*, it can clearly be seen as precursor to the 20th Century's space frames.[43] This long-span structure composed of an almost infinite number of identical components, was to be glazed with thick panes caulked like the deck of a ship. It immediately captured Pickett's imagination. The idea of enormous uninterrupted spans, creating space, free of vertical supports, resonated with spirit of Metallurgic Architecture. Its germ had been there from the start when Pickett embraced the principle of suspension. Pickett first visionary proposal using these fresh ideas was for a domestic palace of nearly 500 houses:

> *... where four lofty equal ranges of buildings, forming a square 400 and 500 feet in length sustains a rectangular dome of 300 feet span... which encloses a court or winter garden, the inner surrounding walk being 1200 feet in length... The types and features of this palace... were exhibited at the Royal Academy in 1853, among other designs of the author.*

In 1854, he wrote to the British Museum suggesting that they enclose their large quadrangle with a shallow dome on the 'tension net' principle, requiring:

> *... no other support than the walls of the present building as they now stand... the skill and ability of your own architect (Mr. Sidney Smirke) would... be available in rendering the details and final decoration of the work harmonious with the general effect and style of the edifice.*[44]

By this time, iron buildings and structures were no longer a novelty. The Great Exhibition had demonstrated unprecedented transparency and strikingly new boundless space created by repetitive and seemingly ephemeral components. Confidence in large span railway sheds was growing and experiments in the decorative and architectural use of iron were proliferating, largely it must be said, beyond the reach and interest of architects. British manufacturers were sending iron buildings of all sorts to far-flung markets and responding

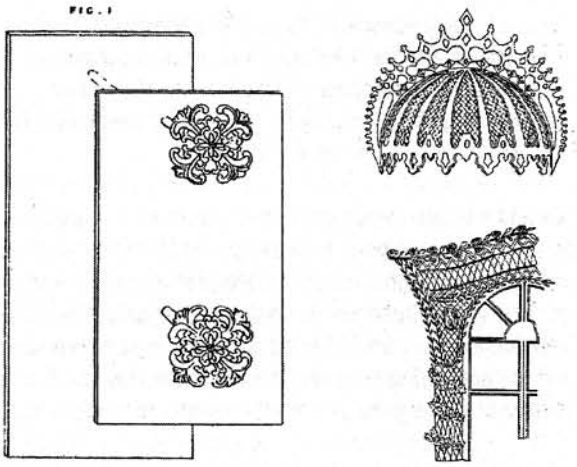

FIG. 2: PATENT METAL FIXING EXTENSIONS FOR PROTEAN EFFECTS & OPENWORK MESHES

to opportunities at home for light, swiftly erected and economic structures. Iron and the kinds of constructions it made possible, were nevertheless considered less than honest as we have seen from Pugin's comments above, to which were added the attractively argued prejudices of John Ruskin and others.[45] Aside from these 'moral' scruples, the larger spans possible with iron framing, were aesthetically disturbing as can be seen from C R Cockrell's comment on:

> *... the so-called Grecian Ceiling, in which unmeasured trabeation, sometimes in a single unbroken sheet of most alarming extent, threatens to crack over us... a church 80ft by 60ft so covered, was a distress and a solecism.*[46]

In spite of all these deeply felt reservations, some brave essays were made legitimising the use of iron in architecture. Dean and Woodward's Oxford Museum courtyard is well known. In 1856, the Ecclesiological Society published a design for a model iron church, by W Slater, intended as an example for emulation by the temporary iron-church builders. The design was inspired by the Museum's interior, particularly the detail of its columns with their hand-wrought capitals and openwork arches.[47] Naturally, Pickett was deeply critical of this attempt to reconcile his favourite material with liturgically acceptable 'Pointed Architecture'. *The Ecclesiologist* generously printed his scathing remarks, which pointed out that its: "... invention (was) so poor, that it is necessary... to copy some of the iron details of the brick and mortar and iron Great Western railway Station?"[48]

In response, Pickett did not shrink from designing a magnificent church embodying the finest manifestations of Metallurgic Architecture, combining iron with porcelain, glass and slate.[49] A great benefit over a masonry church occupying the same ground area was that his design had 20% more usable area. The space-saving advantage of the New Architecture over conventional building would make its use on congested city sites, especially in 'lofty' buildings particularly attractive.[50]

Campaigning, lobbying and pamphleteering did not seem to help. Despite Pickett's optimism and stamina, he appears to have made little headway over the years. Finally, in 1864, after more than twenty years of persistence, the following encouraging report appeared in *The Builder*:

> *A limited liability company, with a capital of £500,000, in shares of £25 each, is in course of formation under the title of the Iron Architectural and Engineering Company, for developing the inventions of Mr. W. Vose Pickett.*[51]

Just as all the effort seemed to be bearing encouraging results, Pickett disappears from view in the press. The only exception is a late, positive and seemingly retrospective report in 1869 describing Pickett as having "had a true appreciation of iron for architectural purposes."[52]

In the search for a new architecture, there were perhaps more conventional approaches that seemed to suggest that Iron would be a good candidate to deliver the Century's very own style. Edward Lacy Garbett published his popular *Treatise on the Principles Design in Architecture* in 1850.[53] In his view, there were three distinct systems:

> *—the DEPRESSILE, the COMPRESSILE and the TENSILE methods,—the beam—the arch—and the truss; of which the two former have been made the bases of past systems: the third is ours, to be used in the same manner.*[54]

Here we can see that faith was being invested in tectonic logic, which with the application of intellectual rigour would in time deliver the New Style. James Fergusson looked to evolution in shipbuilding and the logic of Manchester warehouses "ornamented only in their construction" as inspirations, while condemning current architecture for its bankruptcy of ideas and copyism.[55] Neither of these authors, nor anyone else, made any suggestions about the nature of an Iron Architecture as detailed and as inventive as Pickett.

Realised prophecies

Some of the ideas in the manifesto, later publications and records of Pickett's projects amounted to shrewd premonitions of what would become commonplace in the twentieth century. It is surprising that so little note has been taken of his predictions. Into this category we could include his musings around long spans and Skeleton Framing, especially when applied to 'lofty' buildings where space taken up by walls would be much reduced, at the same time minimising the burden on foundations. Hollow or double (canister) walls in conjunction with skeleton framing, suggests the logic of non-loadbearing panel construction using slabs of natural materials like slate or manufactured panels in metal or other synthetic materials. The air between the inner and outer skin moderated internal temperatures providing better insulation than conventional construction. Pickett's future included the notion that an Architectural Style had responsibility to deliver comfort and hygiene as well as pleasure to its occupants. In this comprehensive vision, services of various kinds occupied interstitial spaces in the hollow walls to facilitate the distribution of pipes of various kinds as well as flues and chimneys for ventilation and smoke. The hollow walls also served the spaces they bounded by providing inbuilt storage. The Benthamite reviewer paid his highest compliment when, entering into the spirit of Pickett's ideas, he suggested that "utility is the only true basis of Architecture."[56]

Unusual for its time was his delight in the possibilities provided by industrial production and mechanical repetition of components and ornament. The idea that mass-production could contribute to aesthetic qualities was remarkable as was Pickett's disregard for contemporary sentiment concerning the nobility of handicraft. Pickett's 'Address to Capitalists' anticipates by seventy odd years, similar urgent pleas by Le Corbusier in his 1923 *Vers une Architecture*.

Many of Pickett's ideas, stripped of their poetic qualities, evolved by the mid-twentieth century into the mundane underpinnings of an unremarkable mainstream of modern architecture.

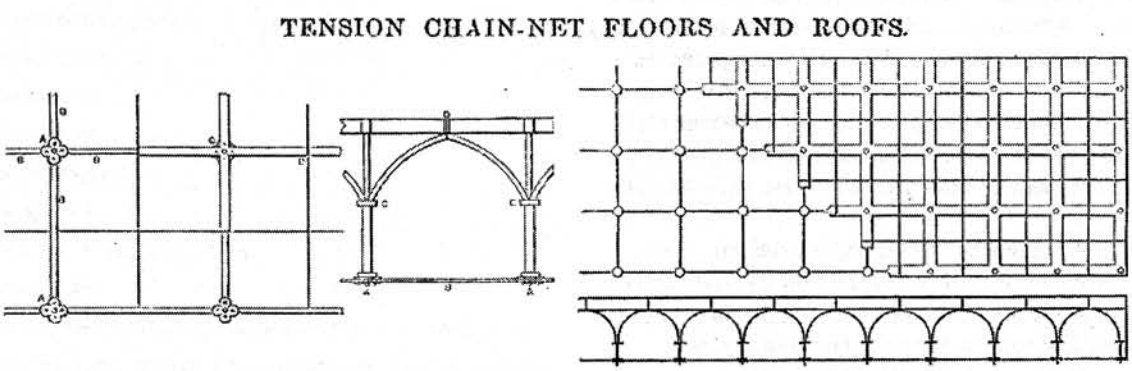

FIG. 3: WILLIAM BRIDGES ADAMS SPACE-FRAME. THIS IDEA INSPIRED SEVERAL OF PICKETT'S LATER PROJECTS

Invention versus design: The curves and shadows of a fugitive architecture

The prominence that Pickett imagined for curves and vibrant colours would certainly have set Metallurgic Architecture apart from conventional styles. His motivation was to find forms of expression that would be closer to the universally acknowledged beauties inherent in organic nature, while at the same time exploiting the ease with which non-rectilinear shapes could be reproduced by casting and other forms of industrial production.

The most original and inspired contributions to Architecture were undoubtedly his ideas for creating *Protean Effects* with detached and interstitial ornament. These go way beyond mere novelty and should rank highly among true inventions in Architecture. They are ideally suited to metal construction and are entirely different to any system of embellishment employed in any other style.

Upon reflection, his elegant ideas are easy to grasp in thought, but developing designs that would bring them to life is another matter entirely. The drawings in the patent and illustrating the 1848 pamphlet are deeply disappointing.[57] They are so loaded with the noisy conventions of mid-century naturalistic ornament that they become unremarkable, even on close inspection. Capturing the dynamic effects of moving shadows would have taxed the most able draughtsman. Conjuring up entirely new and appropriate forms capable of doing justice to the inventor's insights was probably beyond anyone's grasp. The ideas were doomed to remain in the penumbra between fugitive visions held in the mind and realisation in unambiguous representation or physical substance. Pickett's quest is almost certainly an example of an historical cul de sac: Brilliant ideas, yet without the prospect of fulfilment—at least in his time.

Clearly, Pickett's thoughts suggested to him powerful, fertile possibilities for his imagined architecture. In his mind's eye, he could see infinite potential for the new art through the logic of formless speculation. Unfortunately, these musings were incapable of capturing and translating ideas convincingly into drawings let alone expressing them in material objects. Perhaps the most valuable lesson we can learn from Pickett's work is that, paradoxically, coherent architectural visions may be possible independent of form. He recognized his shortcomings. He understood that that to fix the ideas with appropriately designed and definite shapes that could do justice to his vision required deploying a very different range of skills and talents. He made this plea;

> *... if... any artist should find himself prompted by the impulse of genius, to produce illustrations of the system contained in this book; the author will feel most happy to be favoured with an opportunity of adding the same...*[58]

Did Pickett write the score of an Architecture that has not yet been played? Did his inventions stake out a whole new and fertile area within which architects could have designed an altogether different future? Are we ready for new forms of embellishment that celebrate the way buildings are put together while at the same time being freely conceived and guided by delightful and lively visual effects? Pickett took the first step. Why were there no followers?

Pickett deserves more than a chuckle and footnote in the History of Architecture. I suggest he got closer to a fresh new architecture than anyone else in the nineteenth century. Unfortunately for him the direction he mapped was never followed. Perhaps that is why he is virtually forgotten. Other visionaries who have written architecture have found niches in its Pantheon. Think of Marinetti and Scheebart. Poor Pickett! How lonely it must have been for him at the cutting edge of the Avant-Garde before anyone thought it fashionable.

NOTES

1 An exception: Peter Collins, 'Metallurgic Architecture 1844' *The Architectural Review*, (October 1961): 267-268.

2 Pickett's printed publications: *To the President...Royal Academy*, London: 1843 (privately printed [Picket 1843]; 'Preparing Metals and other Substances for Building Purposes', British Patent 10, 175, 1844. [Pickett 1844a]; 'Vulcanian Architecture' *The Athenaeum*, 867: 530-532 [Pickett 1844b]; *New System of Architecture*, London: Longman & Co. 1845 [Pickett 1845]; '12 Papers', *Fine Art Journal*, 1847 [Pickett 1847]; *New System of Architecture*, London: Pmphlet,1848. [Pickett 1848]; *New Forms in Architecture*, London: John Ollivier, 1849 [Pickett 1849]; 'Mr Vose Pickett's New System of Iron Architecture', in John Scoffern, et al.(eds., *The Useful Metals and their Alloys*, London: Houlston and Wright 1861, ch. XXIV, pp. 479-490 [Pickett 1861].

3 Thomas Hope died in 1831.

4 Hope's *Essay*, London: John Murray, 1840, p. 492.

5 Augustus Welby Pugin, *The True Principles*, London: H. Bohn, 1843, pp. 26-27.

6 'On the effects which should result ... from... introduction of iron in the Construction of Buildings.'—*Civil Engineer and Architect's Journal*, 6 (1843), pp. 291-295.

7 Prof. Cockrell's Third lecture, *The Builder*, III (1845), p. 49.

8 Pickett (1843), p. 1.

9 Pickett (1849), p. 15.

10 Letter from G. E. Anson, Windsor Castle, July 26, 1844. Pickett (1849), p. 54.

11 Pickett (1844a).

12 'Vulcanian Architecture', *The Athenaeum* (1844), pp. 202-203.

13 *Athenaeum* (1844), p. 532.

14 Pickett (1845).

15 Pickett (1845) p. 6.

16 Pickett (1845) p. 14.

17 Pickett (1845) p. 15

18 Pickett (1845) p. 82.

19 Pickett (1845) pp.15-16.

20 Pickett (1845) pp. 68-69.

21 Pickett (1845), p. 5.

22 Pickett (1845) pp. 37-48.

23 Pickett (1845) pp. 49-50.

24 Pickett (1845) pp. 51-56.

25 Pickett (1845) pp. 56-60.

26 Pickett (1845) p. 60.

27 Pickett (1845) pp. 77-79.

28 Pickett (1845) pp. 130-131.

29 Pickett (1845) p. 96-97.

30 Pickett (1849) p. 15.

31 Pickett (1847).

32 Pickett (1848).

33 Pickett (1849) p. 35.

34 Pickett (1849) p. 27.

35 *The Builder*, May 8, 1847, p. 214.

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38 John Summerson, *John Nash*, London: Allen & Unwin, 1949, pp.219-222.

39 'A New System of Architecture', p.10.

40 'A New System of Architecture', pp. 104-145.

41 Pickett (1849).

42 Pickett (1849), pp. 56-57.

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44 'Quadrangle of British Museum', *Journal of the Society of Arts*, 2 (1854), p. 291.

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50 Pickett (1861), p. 482.

51 *The Builder* (1864), p. 373.

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54 E. L. Garbett (1850), pp. 263-264. See also: http://www.voorthuis.net/Pages/necessity.htm.

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William Vose Pickett's celebration of an imagined architecture.

William Vose Pickett's celebration of an imagined architecture.
The failure of Invention without representation.

William Vose Pickett

NEW

ARCHITECTURE

NATURE

METALS

HIGHER BEAUTY
UTILITY
ECONOMY

COMMERCIAL,

EXPORTATION.

William Vose Pickett

NEW SYSTEM
OF
ARCHITECTURE,
FOUNDED ON
THE FORMS OF NATURE,
AND DEVELOPING
THE PROPERTIES OF METALS;

BY WHICH A HIGHER ORDER OF BEAUTY,
A LARGER AMOUNT OF UTILITY,
AND VARIOUS ADVANTAGES IN ECONOMY,
OVER THE PRE-EXISTENT ARCHITECTURES,
MAY BE PRACTICALLY ATTAINED:

PRESENTING ALSO,
THE PECULIAR AND IMPORTANT ADVANTAGE OF BEING
COMMERCIAL,
ITS PRODUCTIONS FORMING FITTING OBJECTS FOR
EXPORTATION.

BY
WILLIAM VOSE PICKETT.

LONDON :—LONGMAN & CO.
1845.

William Vose Pickett

Drawing from Albert Hall Frieze showing iron rolling mill

William Vose Pickett

NEW SYSTEM OF ARCHITECTURE,
ADAPTED TO THE PRODUCTION OF
IRON AND OTHER METALS.

William Vose Pickett shard 01

First Primary Principle.

Section of *hollow iron wall*, with *chased ornamental surface*, in *substitution* of the *solid wall*, and ashlered surface, used in masonry,

William Vose Pickett shard 02

Second Primary Principle.

Interstitial ornamental form, in substitution of surface carved, or prominent relievo form.

The *advantages* of this description of forms are, 1st—Capacity for the attainment of effective beauty in the form itself—the boldness of its projection and contrasted color with that of the surface or wall. 2nd.—Peculiar beauty in the production of optical or protean effects, through the projection of its shadows on the delicately tinted surface in the rear. 3rd—Improved cleanliness by the passage afforded for wind and water through the interstices of the design, and between the ornamental form and the surface of the building. 4th—Greater durability of metallic ornamental form, than forms executed in stone or cement, and when considerable numbers of casts from any *one* model is required, greater cheapness in production.

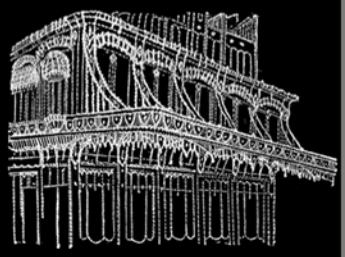
In addition to the above specific advantages, forms of this description afford opportunity for the introduction of various features, such as *transparent cupola*, sun shades for windows, &c. by which peculiar utility is combined with peculiar ornamental effect."

William Vose Pickett shard 03

Third Primary Principle.

Illustrated in the *Suspension Portico*, or transparent longitudinal covered way, in *substitution* of the columnal portico, colonnade and arcade of the masonic arts; as also in the application of Suspension chains to corresponding turrets for the support of Roofs to buildings, of such extent, as in the masonic arts require the obstruction of columns and piers.

Forms and arrangements of this description offer peculiar advantages in application to Railway termini and platforms, public entrances and covered ways for streets, &c., Extensive Buildings for general purposes of Exhibition or Assembly—Terraces and conservatories to Villas, state apartments, &c.

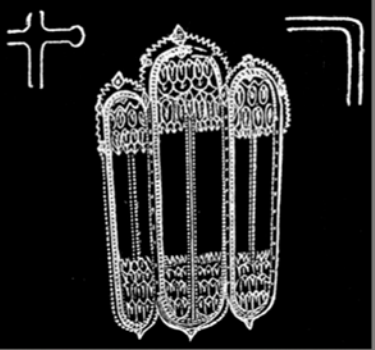


William Vose Pickett shard 04

Fourth Primary Principle

Consists in the general *Substitution of Curves* of variously modified proportions throughout the *Primary Parts & Apertures of buildings*, instead of the angular forms so prevalent in all erections in the masonic arts.

The affinities of this general character of form are existent in those orders of natural structure, wherein the affinities of metallic powers are found to reside—in which utility, the most comprehensive, and beauty, the most perfect, is manifested from the example of which also the three other primary distinctive principles of the system are derived.



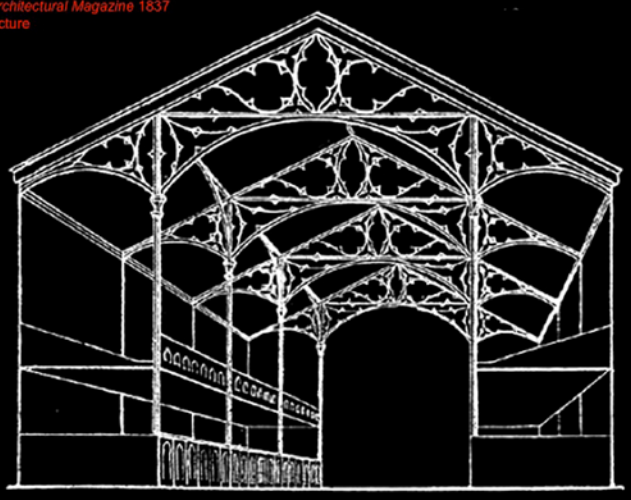
William Vose Pickett

William Vose Pickett

John Cragg & Thomas Rickman
1812 St George Everton, Liverpool

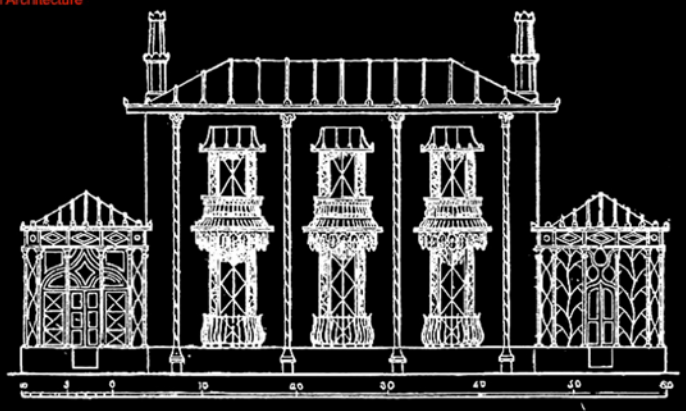
William Vose Pickett

Loudon's *Architectural Magazine* 1837
Iron Architecture



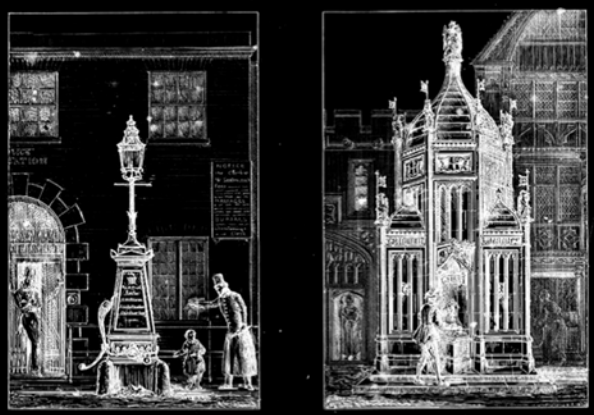
William Vose Pickett

Loudon's *Architectural Magazine* 1837
Iron Architecture



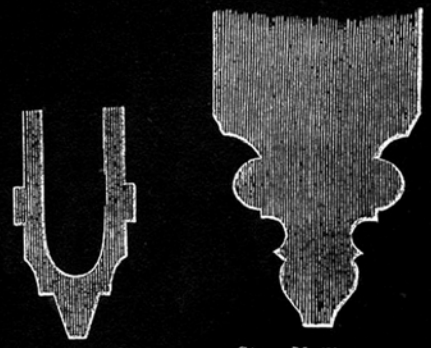
William Vose Pickett

Contrasts 1841 A W Pugin



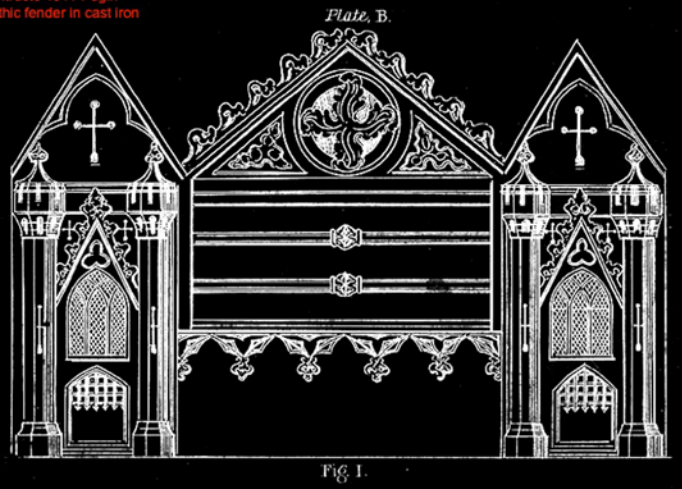
William Vose Pickett

Contrasts 1841 Pugin
Comparison between a Cast iron and Stone Mullion



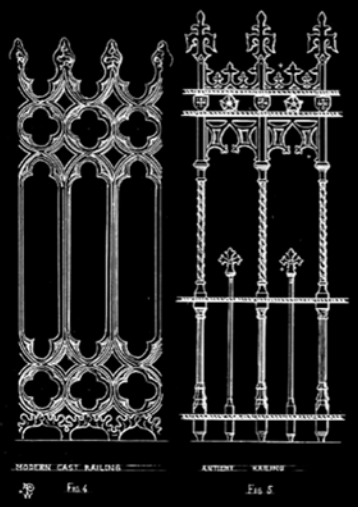
William Vose Pickett

Contrasts 1841 Pugin
Gothic fender in cast iron



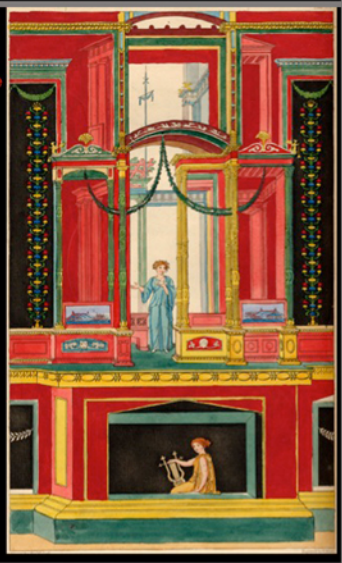
William Vose Pickett

Contrasts 1841 Pugin
Comparison between Modern cast railings and authentic Antient Railing



William Vose Pickett

Pompeiana 1832 Gell
Slender deceptive untruthful + impossible painted Architecture
Condemned by Vitruvius

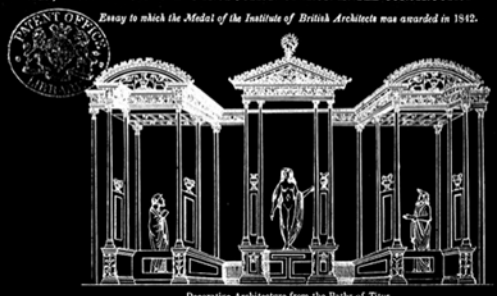


William Vose Pickett

Civil Engineer and Architects Journal
1842 RIBA Prize Essay masthead

ON THE EFFECTS WHICH SHOULD RESULT TO ARCHITECTURAL TASTE, WITH REGARD TO ARRANGEMENT AND DESIGN, FROM THE GENERAL INTRODUCTION OF IRON IN THE CONSTRUCTION OF BUILDINGS.

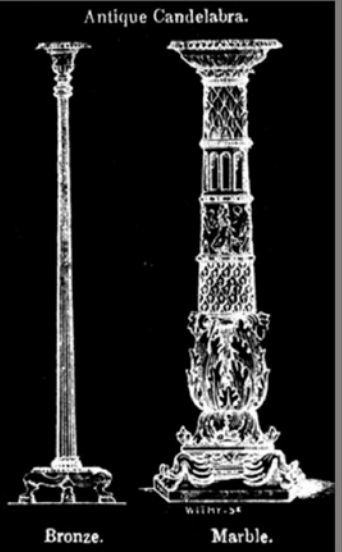
Essay to which the Medal of the Institute of British Architects was awarded in 1842.



Decorative Architecture from the Baths of Titus.

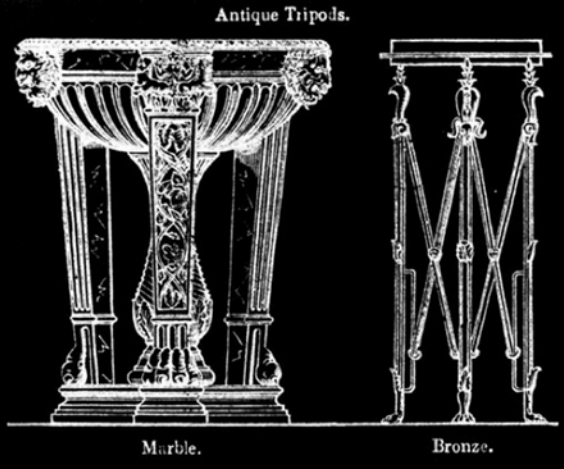
William Vose Pickett

Civil Engineer and Architects Journal 1842 RIBA Prize Essay
Comparison between artifacts of different materials



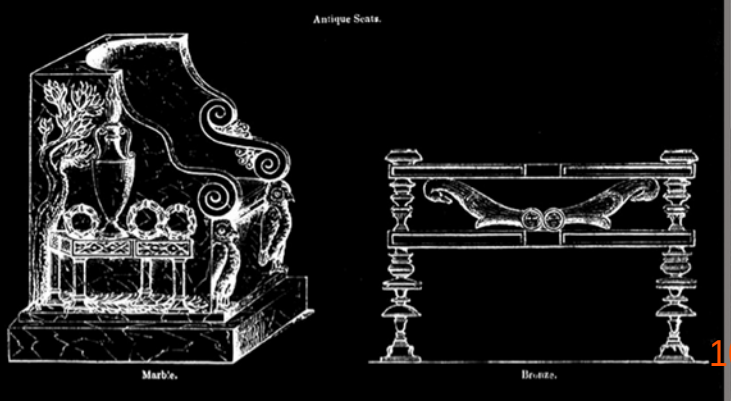
William Vose Pickett

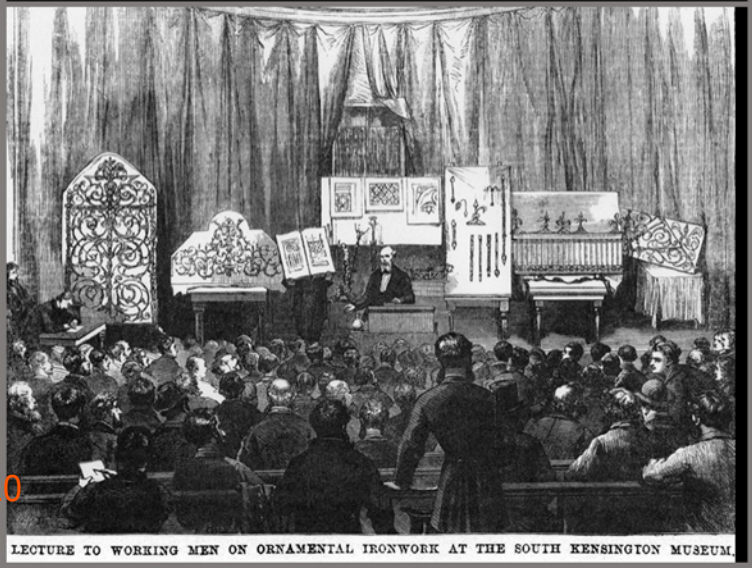
Civil Engineer and Architects Journal 1842 RIBA Prize Essay
Comparison between artifacts of different materials



William Vose Pickett

Civil Engineer and Architects Journal 1842 RIBA Prize Essay
Comparison between artifacts of different materials





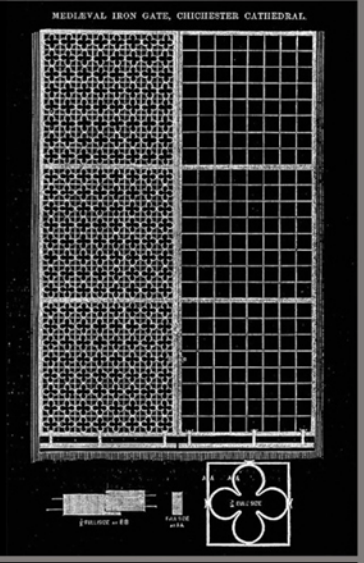
LECTURE TO WORKING MEN ON ORNAMENTAL IRONWORK AT THE SOUTH KENSINGTON MUSEUM.

William Vose Pickett

Builder 1846
Mediaeval Ironwork
Inspiration for design

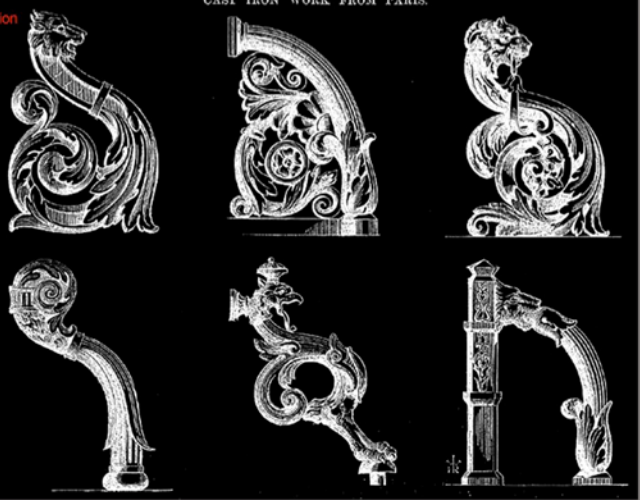
William Vose Pickett

Builder 1852
Mediaeval Ironwork



William Vose Pickett

Builder 1850
Design inspiration
From France



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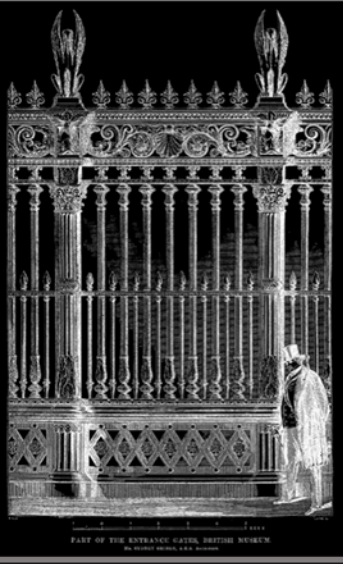
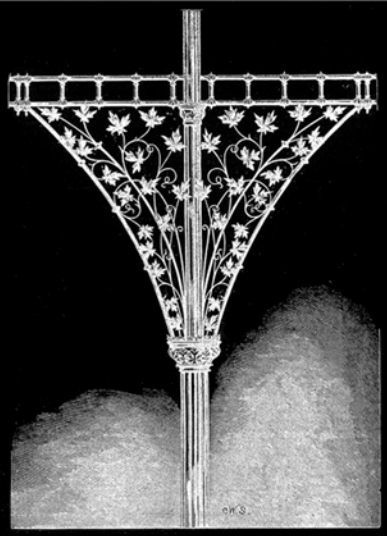
Builder 1852
Sir Sydney Smirke
British Museum railings



William Vose Pickett

Builder 1855 Oxford Museum,
Ruskin's influence on Dean & Woodward



William Vose Pickett

William Vose Pickett

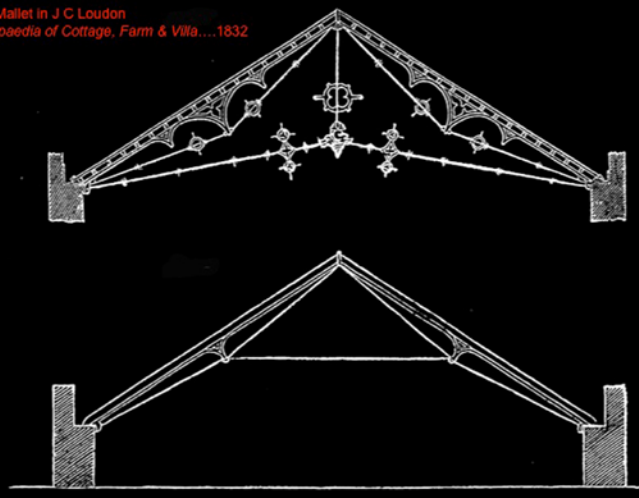
Skidmore (Coventry) & Dean+Woodward
Oxford Museum Court 1856

William Vose Pickett

Instrumenta Ecclesiastica 1856
Iron Church R C Carpenter

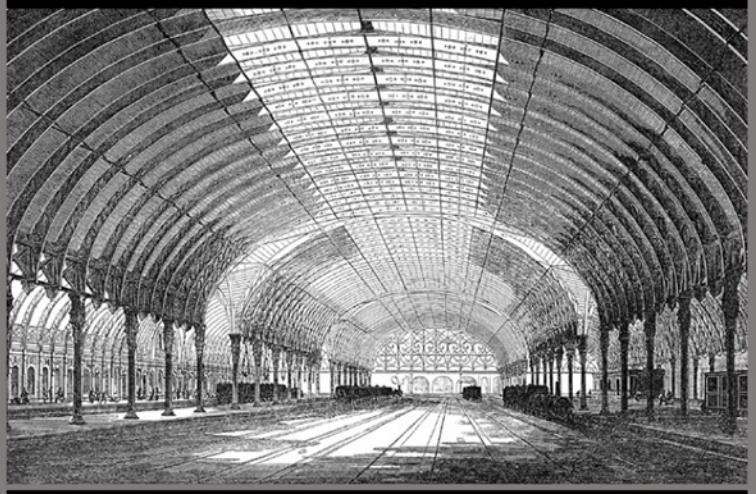
William Vose Pickett

Robert Mallet in J C Loudon
Encyclopaedia of Cottage, Farm & Villa....1832



William Vose Pickett

Builder 1854 Paddington Station I K Brunel + M D Wyatt

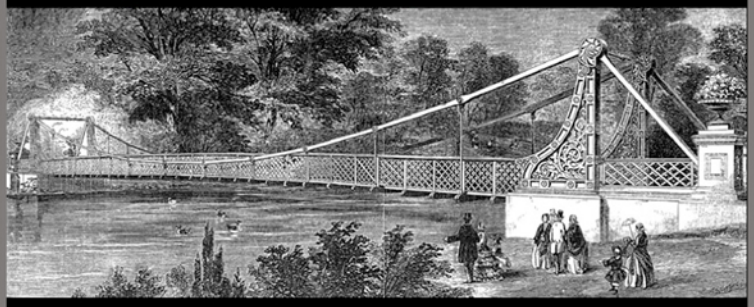


William Vose Pickett

I K Brunel & M D Wyatt
Paddington Station 1854

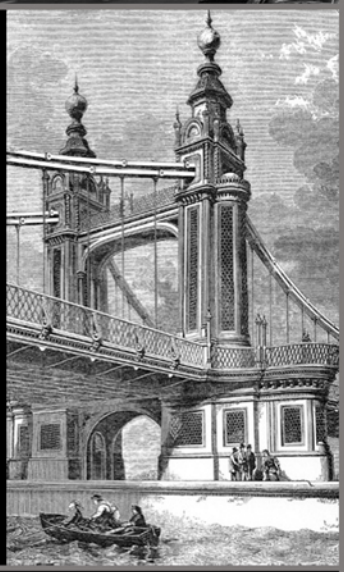
William Vose Pickett

Builder 1857 Bridge, St James' Park Messrs Rendel & M D Wyatt



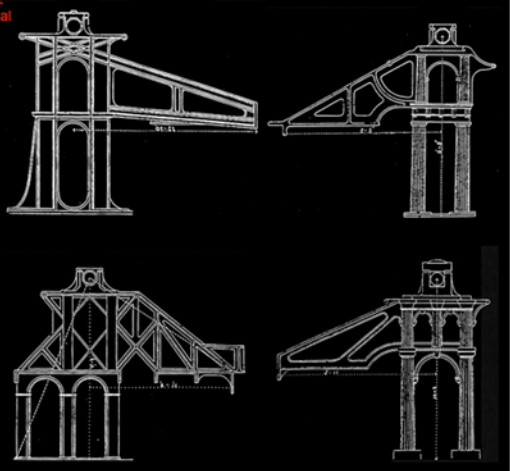
William Vose Pickett

Builder 1857 Alex Gordon Page
Chelsea Suspension Bridge
Engineering Gothic



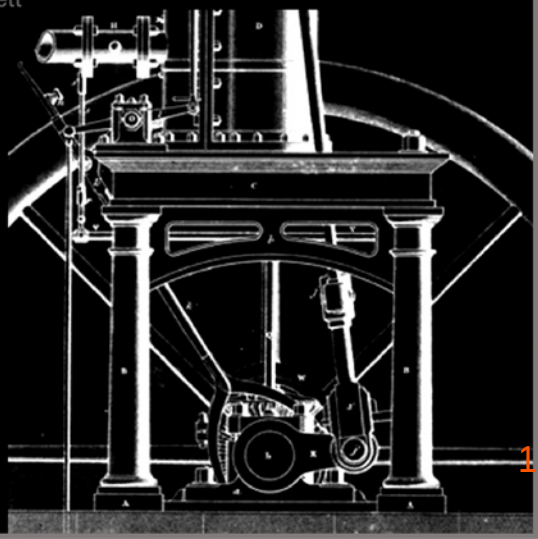
William Vose Pickett

Samuel Clegg
The Architecture of Machinery 1852
Machine frames astylar and classical



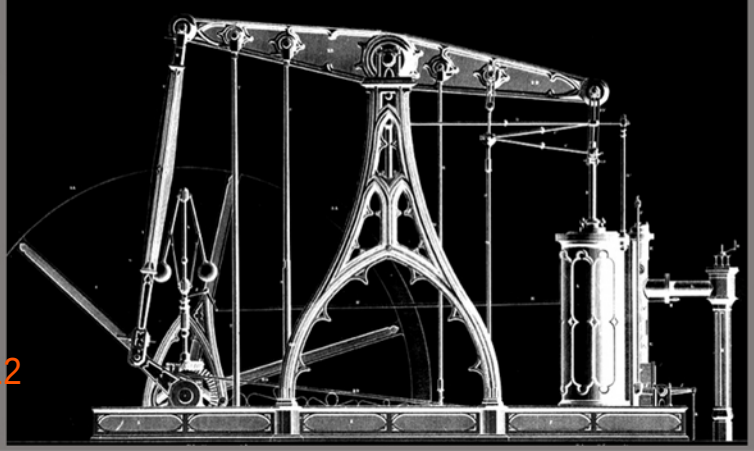
William Vose Pickett

1855 Le Blanc
Classical Engine Frame



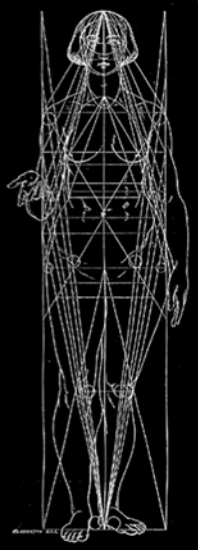
William Vose Pickett

1866 John Cockrill Gothic Machine frame



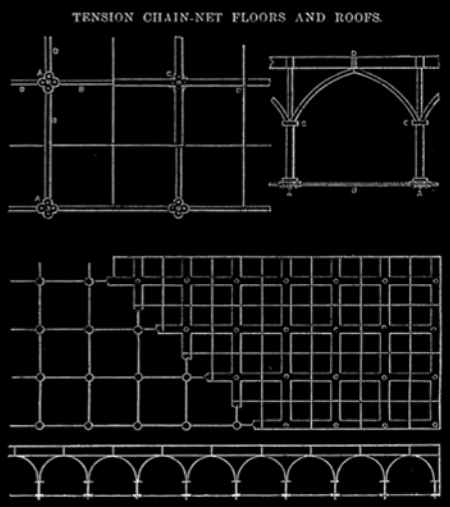
William Vose Pickett

Proportions in Nature : The human body
Drawing by Hay 1850s



William Vose Pickett

Builder 1852
William Bridges Adams
Space-frame invention



William Vose Pickett shard 03

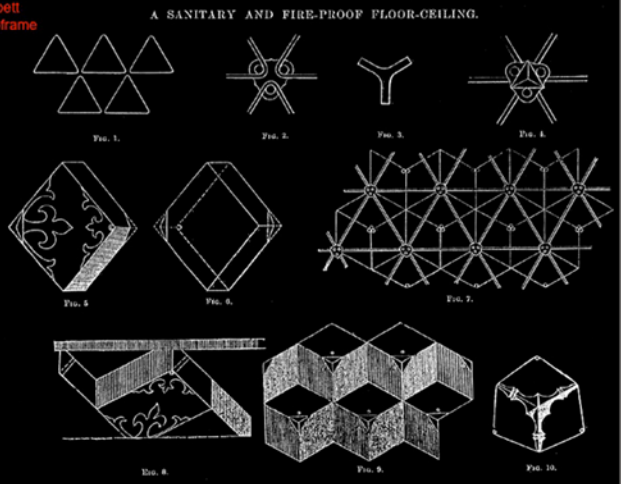
Third Primary Principle.

Illustrated in the *Suspension Portico*, or transparent longitudinal covered way, in *substitution* of the columnal portico, colonnade and arcade of the masonic arts; as also in the application of Suspension chains to corresponding turrets for the support of Roofs to buildings, of such extent, as in the masonic arts require the obstruction of columns and piers.

Forms and arrangements of this description offer peculiar advantages in application to Railway termini and platforms, public entrances and covered ways for streets, &c., Extensive Buildings for general purposes of Exhibition or Assembly—Terraces and conservatories to Villas, state apartments, &c.

William Vose Pickett

Builder 1852
Edward Lacy Garbett
Hexagonal space-frame ceiling

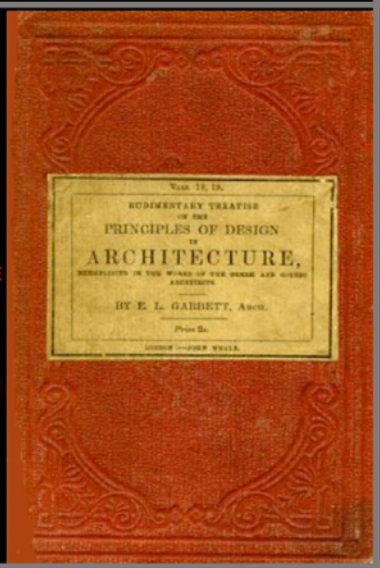


William Vose Pickett

E L Garbett 1850

A new style requires the generalized imitation of nature and of many previous styles; and a new system requires in addition to this, the binding of all together by a new principles of unity , clearly understood, agreed upon, and kept constantly in view. Constructive statics affords three such principles, - the DEPRESSILE, COMPRESSILE And the TENSILE methods, -- the ***beam***, -- the ***arch*** -- The ***truss***; of which the two former have been made the Bases of past systems: the third is ours, to be used in The same manner. (pp 263-4)

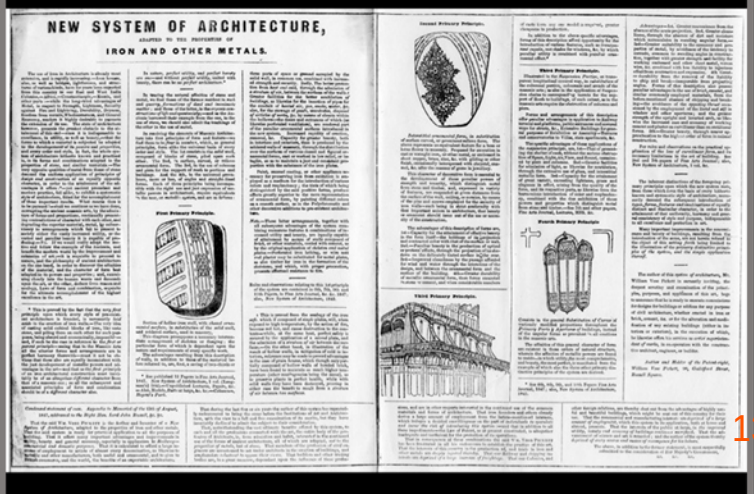
DEPRESSILE = Classical -- Trabeated
COMPRESSILE = Gothic -- Arcuate
TENSILE = 19th Century -- ??????



William Vose Pickett

Walter Macfarlane Saracen Foundry showroom

William Vose Pickett



William Vose Pickett

The five points of Architecture LC